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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/164,853	10/01/98	AKIYAMA J	42390.P3373

TM02/0122

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EXAMINER	
VITAL,P	
ART UNIT	**PAPER NUMBER**
2186	9

DATE MAILED: 01/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/164,898	Aklyama, James
Examiner	**Group Art Unit**
Pierre Vital	2186

☒ Responsive to communication(s) filed on *Dec 27, 2000*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-3 and 7-15* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-3 and 7-15* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to applicant's communication filed December 27, 2000 in response to PTO Office Action dated November 7, 2000 The applicant's remarks and amendment to the specification and/or the claims were considered with the results that follow.

2. Claims 1-3, 7-15 have been presented for examination in this application. In response to the last Office Action, no claims have been amended. No claims have been canceled or added. Therefore, the claims remain in the application.

3. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 7-9, 12, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US5,905,910) and Jones et al. (US5,619,723).

As per claims 1, 7, 8, 11, 12 and 15, Anderson teaches a system for multi-threaded disk drive interrupt processing wherein the first and second disk drives 110 and 112 may be integrated

device electronics (IDE) disk drives wherein the disk drive itself contains many of the required interface components; with IDE disk drives, a single interface coupled to the bus system 108 is capable of operating multiple IDE disk drives [Col.5, lines 28-33]; it is the instructions in the BIOS 106 itself that controls the positioning of the read/write head in the first disk drive 110 and the second disk drive 112 [Col.8, lines 12-15]; in the disk striping embodiment of the system 100, a data file is apportioned into blocks that are alternately stored (interleaved) on the first drive 110 and the second drive 112; the system 100 advantageously allows the BIOS 106 to issue commands to both the first disk drive 110 and the second disk drive 112 to allow each of the first and second disk drives to simultaneously (parallel) perform the consuming task of positioning the read/write head at the proper location on the disk drive [Col.8, lines 62-67; Col.9, lines 1-3]; with respect to the disk striping aspect of the system 100, the operating system behaves as if there is a single disk drive (single physical drive) rather than the first disk drive 110 and the second disk drive 112 [Col.7, lines 60-63]. However, Anderson fails to specifically teach an interface connected to the system bus and communicating with the BIOS; and a striping controller connected between said first and second disk drives and said interface, said striping controller causing data being communicated between said system bus and said first and second drives to be substantially read or written in parallel.

Jones discloses an interface connected to the system bus and communicating with the BIOS [Col.14, Lines 24-31]; a striping controller connected between said first and second disk drives and said interface [Col.14, Lines 28-33], said striping controller causing data being

communicated between said system bus and said first and second drives to be substantially read or written in parallel [Col.16, Lines 32-35].

It would have been obvious to one of ordinary skill in the art, having the teachings of Anderson and Jones before him at the time the invention was made, to modify the system taught by Anderson to include a controller for controlling striping of the disks, the controller causing data being communicated between said system bus and said first and second drives to be substantially read or written in parallel because it would have improved system performance by allowing reconstruction of data without any down time as taught by Jones.

As per claims 2, 9 and 13, Anderson teaches this process is repeated with data transfers alternating between the first disk drive 110 and the second disk drive 112 [Col.12, lines 18-20].

6. Claims 3, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US5,905,910) and Jones et al. (US5,619,723) and further in view of Jenkins (US4,047,157).

As per claims 3, 10 and 14, the combination of Anderson and Jones teach the claimed invention as detailed above in the previous paragraphs. Anderson further teaches the BIOS 106 contains instructions, which the CPU 102 executes, to transfer data or commands to the internal registers of the first disk drive 110; for example, the disk transfer command to the first disk drive 110 will include data such as the physical location on the first disk drive from which the data file

will be read (system request); the BIOS 106 also contains instructions to issue commands to the second disk drive 112 in preparation for a data transfer with the second disk drive [Col.8, lines 54-61]. However, neither Anderson nor Jones specifically teach that the system request includes a sector bit string, a head bit string, a track bit string and a driver bit as recited in the claims.

Jenkins teaches a controller for use in a data processing system wherein in the track/sector register 146 Track Address and Sector Address bit positions identify, respectively, the track and sector on a disk to be involved in a transfer; in a fixed-head unit, the Track Address bits identify a specific head [Col.20, lines 38-42]; a Write signal, produced in response to the function bits, enables drivers 297 to load data onto the data set 101 [Col.26, lines 26-28].

It would have been obvious to one of ordinary skill in the art, having the teachings of Anderson and Jones and Jenkins before him at the time the invention was made, to modify the system taught by Anderson and Jones to include sector bit string, head bit string, track bit string and driver bit in the system request because it would have improved processing speeds and memory access times by providing the system identification information for the physical location on the drive from which the data file will be read or written as taught by Jenkins.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3, 7-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c)to consider these references fully when responding to this action. The documents cited therein teach disk striping, interleave and parallel access to disks and striping controller separate from BIOS.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre M. Vital whose telephone number is (703) 306-5839. The examiner can normally be reached on Monday to Friday from 8:30 A.M. to 6:00 P.M., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim, can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-9731.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9000.

MK/pmv

January 17, 2001

MATTHEW KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100